







Dh	121	ckppdgffsnetstkaprcrhttcsvgllltqkgnathnjsagpsestqkcgiaavl	180
Oy	142	ckrcpdgffsnetstskapcrkhnmcsvfgllltqkgnathnjsagpsestqkcgidvlt	201
Dh	181	ceaeffrayvctkfcpmayslvsnlpqtkvnaesverikrpqhsagqctfgllklyhqn	240
Oy	202	ceaeffrayvctkfcpmayslvsnlpqtkvnaesverikrpqhsagqctfgllklyhqn	261
Dh	241	kdgatvkkllididalcensvgrhghnaltlegrlsmeslpqkvaaedektikcxp	300
Oy	262	kDODVKKIITODIDLCENSVRHGHALVTEQLRSLMESLPQKVAEDIEKTIKCKP	321
Dh	301	sdgllkllslwrinkgddtlkglmhalbhsktyhfpkvtvqsllkctrlfnstfmykly	360
Oy	322	SDQILKLLSLWRINKGDDTLKGLMHALBHSKTYHFPKVTYQSLKTIIRFLHSTTMKLY	381
Dh	361	qklflemingvqsvkiscsl	380
Oy	382	OKLFLEMIGNOVQSVKISCL	401
AC	2	Result	
ID	R99925	standard; Protein; 401 AA.	
AC	R99925;		
Dt	22-APR-1997	(first entry)	
DE	Full length osteoclastogenesis inhibitory factor.		
KM	Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;		
OS	Homo sapiens.		
FH	Key	Location/Qualifiers	
FT	Peptide	1..21	
FT	/note="Signal peptide"	22..401	
FT	Protein		
FT	/note="Mature OCIF, claim 6"		
PN	MO65626217-AL.		
PD	29-AUG-1996.		
PF	20-FEB-1996; J00374.		
PR	20-FEB-1995; JP-054977.		
PR	21-JUL-1995; JP-207508.		
PA	(SNOW) SNOW BRAND MILK PROD CO LTD.		
PI	Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;		
PI	Nakagawa N, Ohima N, Tsuda E, Ueda M, Yano K, Yasuda H;		
PI	WPI; 96-402320/40.		
DR	N-PSDS; T36685.		
PT	DNA encoding osteoclastogenesis inhibitory factor protein - useful		
PT	for bone resorption control, esp. treatment of osteoporosis		
PS	Disclosure: Page 64-66; 183pp; Japanese.		
CC	This sequence represents the full length osteoclastogenesis inhibitory		
CC	factor (OCIF) of the invention. The OCIF has a molecular weight by		
CC	SDS-PAGE of 60 kD under reducing conditions and 120 kD under non-		
CC	reducing conditions. The protein is adsorbed onto cation-exchangers		
CC	or heparin and its activity is lowered after 10 mins at 70 deg.C or		
CC	30 mins at 56 deg.C and is lost after 10 mins at 90 deg.C. OCIF is		
CC	useful in the control of bone resorption and therefore in the		
CC	treatment and prevention of disorders of bone resorption, e.g.		
CC	osteoporosis.		
CC	Sequence 401 AA;		
CC			

Query Match	100.0%	Score 2861	DB 20	Length 401
Best Local Similarity	100.0%	Pred. No. 1,20e-278		
Matches 380	Conservative 0	Mismatches 0	Indels 0	Gaps 0
Db	22 etfpkyhydaeetshgllcdkcpptykylkghctakwtvcapcpdhyydcswhtsdeci	81		
Qy	22 ETFPKYHYDEETSHTOLCDKCPPTYLKHCCTAKKTYVACPDPHYDSSWHTSDECL	81		
Db	82 ycsprvckelgyvkqecurthrvceekgrylaiefclkhrcspgyfgvvaqgtyperntv	141		
Qy	82 YCSPVKELGYVKQECURTHRVCECKEGRYLIEFCLKHSRCPGFGVVAQGPERRNTV	141		
Db	142 ckrcpddgfinsetskspcrhrhtcsrvglilltkgnathnicsgnsestqkqgldvltl	201		
Qy	142 CKRPDDGFINSETSKACRHRHTCSRVGILLTKGNATHNICSGNSESTQKQGLDVTLL	201		

Dd	202	ceeaftfawvckfipmnlsvlnhlpgtknaesvverikrghssqetqllkhwbn	261
Qy	202	CEEAFFRAVETKTPMNLsvlnhlpGTkNAESVVERIKRghSSQeTQlLkHwBN	261
Dd	262	kddgfvkklldqldicenvsvgrhlgheanltfeqlrsmesjpskkyaaedlektxckp	321
Qy	262	KDDGVKKLIIDQLDlCENsvGRhlgHEanLTfeQLrSMesJpsKkyAAedLEkTXckP	321
Dd	322	sdqgliklislvrtnkgddctkglmhaklnsktyhfkvtvqsalkkciirflhstamykly	381
Qy	322	SDQGLIKLlSLvrtnKgdDctKglmHaklnSKtyhfkVtvQsAlkkCiirFlhSTAmYkLy	381
Dd	382	qkflflemingvsvsklscl 401	
Qy	382	QKFLfLEMingVsvSKlsCL 401	

	RESULT	3	Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
ID	R99932	standard; Protein; 401 AA.	
AC	R99932:		
DT	22-APR-1997	(first entry)	
DE	Mutated OCIF, OCIF-C20S.		
KW	Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;		
OS	Synthetic.		
FT	Key	Location/Qualifiers	
FT	Peptide	1..21	
FT	/note= "Signal peptide"		
FT	Protein	22..401	
FT	/note= "Mature OCIF-C20S"		
FT	Misc.difference 202		
FT	/label= C20S		
FN	W09628217.AI.		
PD	29-AUG-1996.		
PF	20-FEB-1996; J00374.		
PR	20-FEB-1995; JP-054977.		
PR	21-JUL-1995; JP-207508.		
PA	(SNOW) SNOW BRAND MILK PROD CO LTD.		
P1	Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;		
P1	Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;		
DR	WP1: 96-402320/40.		
DR	N-PDBI: t33162.		
PT	DNA encoding osteoclastogenesis inhibitory factor protein - useful		
PT	for bone resorption control, esp. treatment of osteoporosis		
PS	Claim 32; Page 96-98; 183pp; Japanese.		
CC	This sequence represents a mutated version of the full length		
CC	osteoclastogenesis inhibitory factor (OCIF) of the invention. This		
CC	sequence represents OCIF-C20S in which the 20th Cys residue in the		
CC	mature OCIF protein is substituted by Ser. The OCIF of the invention		
CC	has a molecular weight by SDS-PAGE of 60 kD under reducing conditions		
CC	and 120 kD under non-reducing conditions. The protein is adsorbed onto		
CC	cation-exchangers or heparin and its activity is lowered after 10 mins		
CC	at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90		
CC	deg.C. OCIF is useful in the control of bone resorption and therefore		
CC	in the treatment and prevention of disorders of bone resorption, e.g.		
CC	osteoporosis.		
CC	Sequence 401 AA;		
QY	Query Match	99.5%; Score 2847; DB 20; Length 401;	
QY	Best Local Similarity	99.7%; Pred. No. 3.39e-277;	
QY	Matches 379; Conservative	0; Mismatches 1; Indels 0; Gaps 0;	
Db	22 etfppkylhygeetshqldckcpptgrylkhctakktvcapcpdyrdswhstdecl	81	
Db			
Db	22 etfppkyahydeerisholdckcpgpyrlkhcrakmktvcaacpbdhytswtsDECL	81	
Db			
Db	82 ycspsckelqgvkdgcnthnrveeckegrylelefclkhtrscpgfgvvagtpentv	141	
Db			
Db	82 ycspscKRLQLVKNQECNTHNRVCECKEGRLLEFCLKRHSCTPGSGGVQAAGPEENTV	141	
Db			
Db	142 ctccpdpffsnetsckapcrkhtncsvfygl ltqknathndtcsgnsesctqxcglavtl	201	
Db			

Oy	142	CRCPCDGEFFSNETSCKAPCRKRNHTCSVFGLLLTQGNATHEDNICSNGNSESTQCGIDVTL	201
Dd	202	seeaffiravpbtkfipmjlsvlgvnlpgtkynaesverikrqhsagqctfiqlklwkhqn	261
Oy	202	CEANAFRRFRAVPTRFPNNLSVLVDNLPGTKYNAASVERIKRQHSSQGRTQLKLWKMHQN	261
Dd	262	kqgdvlkklidldicensvgvrhghanalfteqrlsrimeslpgkhhvgaedietkikacxp	321
Oy	262	KDODIVKKIIDDICENSVORHIGHANLFEEQRSLMESLPGRKVGAEDIETIKACXP	321
Dd	322	sddgllklslwrknngddclkgjlmhalbkshktvdfdkvtvgsjkkrtirflbfhtmkly	381
Oy	322	SDQILKTLSPWRKNKGDDDTLGMLHALBKSHKTYPPELVTOSLKTIIRFLHSFTMKLY	381
Dd	382	qklflemigmgvsgvkiscl	401
Oy	382	OKLFLEMIGNOVGSVKISCL	401
<hr/>			
JLT	4	R99931 standard; Protein; 401 AA.	
AC	R99931;		
Dt	22-APR-1997	(first entry)	
Dm	Mutated OCIF (OCIF-C19S).		
KW	Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;		
KM	osteoporosis.		
OS	Synthetic.		
Ft	Key	Location/Qualifiers	
Ft	Peptide	1..21	
Ft	/note-"Signal peptide"		
Ft	Protein	22..401	
Ft	/note-"Mature OCIF-C19S"		
Ft	Misc.difference	195	
Ft	/label-C19S		
Pn	MO9626217-A1.		
Pd	29-AUG-1996.		
Pr	20-FEB-1996; J00374.		
Pr	20-FEB-1995; JP-054977.		
Pa	21-JUL-1995; JP-207508.		
Pa	(SNOW) SNOW BRAND MILK PROD CO LTD.		
P1	Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;		
P1	Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;		
Dr	WPJ; 96-402320/40.		
Dr	N-PSDB; r33161.		
Pt	DNA encoding osteoclastogenesis inhibitory factor protein - useful		
Pt	for bone resorption control, esp. treatment of osteoporosis		
Pt	Claim 29; Page 94-96; 18pp; Japanese.		
Pt	This sequence represents a mutated version of the full length		
Pt	osteoclastogenesis inhibitory factor (OCIF) of the invention. This		
Pt	sequence represents OCIF-C19S in which the 19th Cys residue in the		
Pt	mature OCIF protein is substituted by Ser. The OCIF of the invention		
Pt	has a molecular weight by SDS-PAGE of 60 kD under reducing conditions		
Pt	and 120 kD under non-reducing conditions. The protein is adsorbed onto		
Pt	cation-exchangers or heparin and its activity is lowered after 10 mins		
Pt	at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90		
Pt	deg.C. OCIF is useful in the control of bone resorption and therefore		
Pt	in the treatment and prevention of disorders of bone resorption, e.g.		
Pt	osteoporosis		
SO	Sequence	401 AA;	
<hr/>			
Query Match	99.5%; Score 2847; DB 20; Length 401;		
Best Local Similarity	99.7%; Pred. No. 3,39e-277;		
Matches	379; Conservative 0; Mismatches 1; Indels 0; Gaps 0;		
<hr/>			
Dd	22 etfpkylhyaetsbhlldckcpptylkhnctakwtvcapcdhyrdswhstdeci	81	
Oy	22 ETFPPKYLHYDEETSHOGLCDKCPGTYLKONCHAKKWTVCACPBDYYTDSWHTSECL	81	
Dd	ycsprckelgyvkgecrrtlmrveeckegrylelefcikhscppgfgyvaagperntv	141	
Oy	82 YCSPKCKELGYVKGCRRTLMRVEECKEGRYLELEFCIKHRSCPPGGVVAGPERRNTV	141	
Oy	82 YCSPKCKELGYVKGCRRTNHRVBECKEGRYLELEFCIKHRSCPPGGVVAGPERRNTV	141	
Dd	ckrcpdgffsnetsckapcrknhncsvfgllltkgnathdnicsngnsesetqskgidvtl	201	

Oy	142	CKRPDGEFSNETSSKAPCRKHINCSVFGLLTQKGATNDNDCISGSESTOKCGIDVTL	201
Dd	202	ceeffrfavayctktpmawslvlnhlgptkvnaesvarikrhqssgqtgljklwkhgn	261
Oy	202	CDEAFPRVAFTKTTPNNLSVLVDNLPGTKVNASVERIKRHSQSQTOLKLWKHQN	261
Dd	262	kdgdlvkllqldlclensvgvrhigphaultfeqlrsjmeslpghkyvaediektlkackp	321
Oy	262	KDQDIIVKIIDDIDLCENSVGRIHGHNLFEGQRSLMESLPGRKVGAEDIEKTIACKP	321
Dd	322	sddglklislwrlnkgddclkgimhnlksktyhfkrvtcgsjlktirflnsfymxly	381
Oy	322	SDOIIRKTLSTRINKNGDDTLKGMAHLAKHSKYTHFPIKVTOSLKKTRFLHSTMYKLY	381
Dd	382	qklfiemngpvskiscl 401	
Oy	382	QKLEEMIGNOVOSKISCL 401	
 RESULT 5			
ID	TID	R99933 standard; Protein; 401 AA.	
AC	R99933:	22-APR-1997 (first entry)	
DT	Mutated OCIF, OCIF-C21S.		
KW	Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;		
KM	osteoporosis.		
OS	Synthetic.		
FH	Key	Location/Qualifiers	
FT	Peptide	1..21	
FT	/note= "Signal peptide"	22..401	
FT	protein	"Mature OCIF-C21S"	
FT	/note= "Mature OCIF-C21S"		
FT	Misc.difference	277	
FT	/label=C21S		
PN	WO9626217-A1.		
PD	29-AUG-1996.		
PF	20-FEB-1996; J00374.		
PR	20-FEB-1996; JP-054977.		
PR	21-JUL-1995; JP-207508.		
PA	(SNOW) SNOW BRAND MILK PROD CO LTD.		
P1	Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;		
P1	Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;		
DR	WPI: 96-402320/40.		
DR	N-BSDA: t33163.		
PT	DNA encoding osteoclastogenesis inhibitory factor protein - useful		
PT	for bone resorption control, esp. treatment of osteoporosis		
PS	Claim 35; Page 98-100; 183pp; Japanese.		
CC	This sequence represents a mutated version of the full length		
CC	osteoclastogenesis inhibitory factor (OCIF) of the invention. This		
CC	sequence represents OCIF-C21S in which the 21st Cys residue in the		
CC	mature OCIF protein is substituted by Ser. The OCIF of the invention		
CC	has a molecular weight by SDS-PAGE of 60 kD under reducing conditions		
CC	and 120 kD under non-reducing conditions. The protein is adsorbed onto		
CC	cation-exchangers or heparin and its activity is lowered after 10 mins		
CC	at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90		
CC	deg.C. OCIF is useful in the control of bone resorption and therefore		
CC	in the treatment and prevention of disorders of bone resorption, e.g.		
CC	osteoporosis.		
SO	Sequence 401 AA;		
 Query Match 99.4%; Score 2843; DB 20; Length 401; Best Local Similarity 99.2%; Pred. NO. 8.80e-277; Matches 377; Conservative 2; Mismatches 1; Indels 0; Gaps 0;			
Dd	22	etifppkylnhygeetsqhqlldckcpptfytlkqhctackaktvcapcdpytidswnhtdeci	81
Oy	22	ETFPKRYLHYDEERSHQLDCKCPGYTYLKQHCHTAAKNKTVCAPCPDHYTYDSMHTSECL	81
Dd	82	ycspsyckelgyrvkdecnthrrvceksegrylyleiefclnkrsccpgfgvvagstperntv	141
Oy	82	YCSPSYCKELQYVKDECNTHRNVCEKEGRYLETFCLHKRSCTPGFGVVAGSTPERNTV	141

Db	142	ckpcrdgffsneatskacrcrkhtnsvvgllltqgnatnhdncsgnsesqkcgldvtl	201
Oy	142	ckrcrdgffsneatskacrcrkhtnsvvgllltqgnatnhdncsgnsesqkcgldvtl	201
Db	202	ceeaaffavpblkfcpnalsvldnlpqtkvnaesverikrghsseqctfgllkikwqhn	261
Oy	202	CEEAFFRAVPBKTFPMNLVLDNLPQTKVAESVERIKRQHSSEQCTFGLLKIKWKHN	261
Db	262	kdqdlvkkliiqdidsensvqrghshnaltfcdqlslmesipgkkyvgaedlektlkackp	321
Oy	262	KDQDLVKKLIQDIDCENSVOGRHSHNALTFCQLSLMESIPGKRYVGAEDLEKTKACKP	321
Db	322	sdqllkllslwrlknqgdqcltqglmhalkshsktyhfpkvtcgsllkttirflhtftmykly	381
Oy	322	SDQILLKLLSLWRKKNKGGDQLTGLMHALKSHSKTYHFPKVTVQSLKKTIRFLHSFTMYKLY	381
Db	382	qklftemignvqsvklscl 401	
Oy	382	QKLFTEMIGNOVQSVKISCL 401	
ID	6	ULR	
AC	R99942	standard; Protein; 399 AA.	
DT	23-APR-1997	(first entry)	
DE	Mutated OCIF, OCIF-CL.		
KW	Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;		
OS	osteoporosis.		
FS	Synthetic.		
EH	Key	Location/Qualifiers	
FT	Peptide	1..21	
FT	/note= "Signal peptide"		
FT	Protein	22..399	
FT	/note= "Mature OCIF-CL"		
PN	W09626217-A1.		
PD	29-AUG-1986.		
PR	20-FEB-1986; J00374.		
PR	20-FEB-1995; JP-054977.		
PR	21-JUL-1995; JP-207508.		
PA	(SNOW) SNOW BRAND MILK PROD CO LTD.		
PI	Gocho M., Higashio K., Kobayashi F., Mochizuki S., Morinaga T;		
PI	Nakagawa N., Shima N., Tsuda E., Ueda M., Yano K., Yasuda H;		
DR	WPI: 96-402370/40.		
DR	N-PSDB: T33172.		
PT	DNA encoding osteoclastogenesis inhibitory factor protein - useful		
PT	for bone resorption control, esp. treatment of osteoporosis		
PS	Claim 62; Page 117-119; 183pp; Japanese.		
FS	This sequence represents a mutated version of the full length		
FS	osteoclastogenesis inhibitory factor (OCIF) of the invention. This		
FS	sequence represents OCIF-CL in which amino acids 379-380 of the		
CC	mature OCIF protein are deleted. The OCIF of the invention		
CC	has a molecular weight by SDS-PAGE of 60 kd under reducing conditions		
CC	and 120 kd under non-reducing conditions. The protein is adsorbed onto		
CC	cation-exchangers or heparin and its activity is lowered after 10 mins		
CC	at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90		
CC	deg.C. OCIF is useful in the control of bone resorption and therefore		
CC	in the treatment and prevention of disorders of bone resorption, e.g.		
CC	osteoporosis.		
CC	Sequence 399 AA;		
CC			

	Query Match	99.3%	Score 2840	DB 20	Length 399
	Best Local Similarity 100.0%	Pred. No. 1,808-276			
	Matches 378	Conservative 0	Mismatches 0	Indels 0	Gaps 0
Db	22 etfpkylhygeetsngllcdkcpbgtylkxhctakwtvcapodhyidswhtsgecl	81			
Oy	22 ETFPKYHYHGEETSHQLLCDKCPBGTYLKXHCFAKMTVCAPODHYIDSWHTSDECL	81			
Db	82 ycsprvckelqvgqecnrthnrveockegrylelefcilkhscppgfgvvaagperntv	141			
Oy	82 YCSPRVKELQVKGQCNRTNHRVCECKGRILELEFCILKHSNCSPPGFGVVAAGPERNTV	141			
Db	142 ckrcpddgfinsctskapcrkhtncsvfgllltqkgnathnldsgnsesctqcgldvtl	201			

QY	142	CKRCDFGFFSNMETSKAQCRKHTNCSVFGLLLTQKGNATHDNICSSGSESTQKGDIVTL	201
Db	202	ceeafrfavpbctkfrpnwlsylvdnlpjtkvnaesverikrqhsgeqtfqllkvwkhn	261
QY	202	CEEAFFRAVAPKFRPNWLSVYNLPETKYNASVEIRKROHSSQBOTFOLKLMHON	261
Db	262	kxdqivkklldqldicemsvgrhlgihantfeqrlsimesjpykkygaedtektlckxp	321
QY	262	KQODIVKRIIODIDICEMSVORHIGNAHNLFEQORSLMESJPGKRYAEDIEKTIKACKP	321
Db	322	sddqilklslsrlwkrngsdgdlkgilmahlkhsctyfhfktyvgsjkkcrlfrfshftmlyl	381
QY	322	SDDILKLKSLRIRKNGDSDLKGLMHAKHKSHTYHFPKTYVQSJLKIIRFLHSTMYKL	381
Db	382	qklflemignqygvskis 399	
QY	382	QKLFLEMIGNOVOSVKIS 399	

RESULT	7	
ID	R99934	standard; Protein; 401 AA.
AC	R99934;	
DT	22-APR-1997	(first entry)
DE	Mutated OCIF, OCIF-C22S.	
KW	Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption; osteoporosis.	
OS	Synthetic.	
FH	Key	Location/Qualifiers
FT	Peptide	1..21
FT	/note= "Signal peptide"	
FT	Protein	22..401
FT	/note= "Mature OCIF-C22S"	
FT	Misc_difference	277
FT	/label= C22S	
PN	W09626217-A1.	
PD	29-AUG-1996	
PF	20-FEB-1996;	J00374.
PR	20-FEB-1995;	JP-054977.
PR	21-JUL-1995;	JP-207508.
PA	(SNOW) SNOW BRAND MILK PROD CO LTD.	
PI	Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;	
PI	Nakagawa N, China N, Tsuda E, Ueda M, Yano K, Yasuda H;	
DR	WPI: 96-402320/40.	
DR	P-PSDB: T3164.	
PT	DNA encoding osteoclastogenesis inhibitory factor protein - useful	
PT	for bone resorption control, esp. treatment of osteoporosis	
PS	Claim 38; Page 100-102; 133pp; Japanese.	
CC	This sequence represents a mutated version of the full length	
CC	osteoclastogenesis inhibitory factor (OCIF) of the invention. This	
CC	sequence represents OCIF-C22S in which the 22nd Cys residue in the	
CC	mature OCIF protein is substituted by Ser. The OCIF of the invention	
CC	has a molecular weight by SDS-PAGE of 60 kD under reducing conditions	
CC	and 120 kD under non-reducing conditions. The protein is adsorbed on	
CC	cation-exchangers or heparin and its activity is lowered after 10 min	
CC	at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90	
CC	deg.C. OCIF is useful in the control of bone resorption and therefore	
CC	in the treatment and prevention of disorders of bone resorption, e.g.	
CC	osteoporosis.	
SO	Sequence	401 AA;

[illegible]

ID	Sequence	Location/Qualifiers
Db 142	chrpdpdgffsfnetsckapcrchtcsvfgllltkgnathdnicsgnsestqkcgldvltl	
Oy 142	CKRPDPDGFFSNETSCKAPCRKHTKCSVFGLLLTKGNATHDNICSGNSESTQKCGIDVTL	
Db 202	ceesffrfaevctkffpmrlswlvdnlpbtkvnaesverikrqhsagsgtfgllklwkhpn	
Oy 202	CEBAFFRAAVTKTTPMNLSTLVNLPBTKNASVERIKRQHSQEGTFODLLMKKHON	
Db 262	kddgllvkkllgldlcnsvgrhlgthnltfegrlsmeslpqkkygaedleklikaskp	
Oy 262	KDDGLLVKKLLIGDLCNSVGRHGHANLTPEQRLSMESLPQKKGAEDEIKTIKCKP	
Db 322	sdgllnlslsvrirkngddtclkgllmhalbskcyhfpktvtqslkktlrlfhsftmykly	
Oy 322	SDGLNLSSLVRIKNGDDTLKGLMHALKSKTYHFPKVTQSLKKTIRFLHSFTMYKLY	
Db 382	qkflfemlgngvsgvkiscsl 401	
Oy 382	QKFLFEMLGNGVSKISCL 401	
RESULT 8		
ID	R99935 standard: protein; 401 AA.	
AC	R99935	
DT	22-APR-1997 (first entry)	
DE	Mutated OCIF, OCIF-C23S.	
KW	Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption; osteoporosis.	
OS	Synthetic.	
FT	Key	Location/Qualifiers
FT	peptide	1..21
FT	/note="Signal peptide"	22..401
FT	protein	1..401
FT	/note="Mature OCIF-C23S"	
FT	Misc_difference	400
FT	/label= C23S	
PN	WO9626217-A1.	
PD	29-AUG-1996.	
PF	20-FEB-1996: J00374.	
PR	20-FEB-1995: JP-054977.	
PA	21-JUL-1995: JP-207508.	
PI	(SNOW) SNOW BRAND MILK PROD CO LTD.	
PI	Gocho M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;	
PI	Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;	
PI	WPI: 96-402330/40.	
PT	N-PSDB: T33165.	
CC	DNA encoding osteoclastogenesis inhibitory factor protein - useful	
CC	for bone resorption control, esp. treatment of osteoporosis	
CC	Claim 41: Page 103-105; 183pp; Japanese.	
CC	This sequence represents a mutated version of the full length	
CC	osteoclastogenesis inhibitory factor (OCIF) of the invention. This	
CC	sequence represents OCIF-C23S in which the 23rd Cys residue in the	
CC	mature OCIF protein is substituted by ser. The OCIF of the invention	
CC	has a molecular weight by SDS-PAGE of 60 kd under reducing conditions	
CC	and 120 kd under non-reducing conditions. The protein is adsorbed onto	
CC	cation-exchangers or heparin and its activity is lowered after 10 mins	
CC	at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90	
CC	deg.C. OCIF is useful in the control of bone resorption and therefore	
CC	in the treatment and prevention of disorders of bone resorption, e.g.	
CC	osteoporosis.	
CC	Sequence 401 AA;	

Query Match	99.0%;	Score 2833;	DB 20;	Length 401;
Best Local Similarity	99.5%;	Pred. No. 9.57e-276;		
Matches 378;	Conservative 0;	Mismatches 2;	Indels 0;	Gaps 0

Db	22	etppkylhygeesshglldckcpgpyrlxbchckakwttvaacpodbhyrdsxhtsdesl	81
Oy	22	ETPPKYLHYGEESHGLLDCKCPGPGYRLXBCHCKAKWTTVAACPODBHYRDSXHTSDESL	81
Db	82	ycspvckelgyvkvgecunrthrvceckegryleiefclkhscppgfyvvaagipentv	141
Oy	82	YCSPVCKELGYVKVGECONRTHRVCECKEGRYLEIEFCLKHS CPPGFYVVAAGIPENTV	141

Db	142	ckrppdoffsmeteskappcrthrcscvfglllrbqkgnatdnlicsgnseetqkcgilavt1	201
Oy	142	ckrcpddgffsmeteskappcrthrcscvfglllrbqkgnatdnlicsgnseetqkcgilavt1	201
Db	202	ceeaaffirfavaytkftupmwlsyvdnlpqtkvnaesverikrqhsaqeqtfqjllklykhn	261
Oy	202	ceeaaffirfavaytkftupmwlsyvdnlpqtkvnaesverikrqhsaqeqtfqjllklykhn	261
Db	262	kdgatvkkldlddlcensvtrhghnllcfegrrsmespygkkygaedtektikacxp	321
Oy	262	kdgatvkkldlddlcensvtrhghnllcfegrrsmespygkkygaedtektikacxp	321
Db	322	sdqjllkllslwrkngqdcrlkqjmaalkhsaktyhfpkyvqslkclirflhsftmlykly	381
Oy	322	sdqjllkllslwrkngqdcrlkqjmaalkhsaktyhfpkyvqslkclirflhsftmlykly	381
Db	382	qklflemingngvyskylsl 401	
Oy	382	qklflemingngvyskylsl 401	

RESULT	9
ID	R99948 standard; Protein; 393 AA

AC	R39948;1997 (first entry)	
DT	23-APR-1997	
DE	Mutated OCIF, OCIF-Cbst.	
KW	Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption; osteoporosis.	
KW	Synthetic.	
OS		
FH	Key	Location/Qualifiers
FH	Peptide	1..21
FT	/note="Signal peptide"	
FT	protein	22..393
FT	/note="Mature OCIF-Cbst"	
FT	Misc.diffrence	392
FT	/label="Gln37Ileu	
FN	MO6926217-A1.	
PD	29-AUG-1996.	
PF	20-FEB-1996; J00374.	
PR	20-FEB-1995; JP-054977.	
PR	21-JUL-1995; JP-207508.	
PA	(SNOW) SNOW BRAND MILK PROD CO LTD.	
PI	Goto M, Hiasashi K, Kobayashi F, Mochizuki S, Morinaga T;	
PI	Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;	
DR	WPI: 96-402320/40.	
DR	N-PSDB: T33178.	
PT	DNA encoding osteoclastogenesis inhibitory factor protein - useful	
PT	for bone resorption control, esp. treatment of osteoporosis	
PS	Claim 80; Page 126-128; 183pp; Japanese.	
CC	This sequence represents a mutated version of the full length	
CC	osteoclastogenesis inhibitory factor (OCIF) of the invention. This	
CC	sequence represents OCIF-Cbst in which Gln 371 is substituted by	
CC	Ileu and amino acids 373-380 of the mature OCIF protein are deleted.	
CC	These changes are caused by the introduction of a restriction site in	
CC	the DNA encoding this protein. The OCIF of the invention has a	
CC	molecular weight by SDS-PAGE of 60 kD under reducing conditions	
CC	and 120 kD under non-reducing conditions. The protein is adsorbed on	
CC	cation-exchangers or heparin and its activity is lowered after 10 mins	
CC	at 70 deg.C or 30 mins at 56 deg.C. and is lost after 10 mins at 90	
CC	deg.C. OCIF is useful in the control of bone resorption and therefore	
CC	in the treatment and prevention of disorders of bone resorption, e.g.	
CC	osteoporosis.	
CC	Sequence 393 AA;	

Query Match	97.7%;	Score 2794;	DB 20;	Length 393;
Best Local Similarity	99.7%;	Pred. No. 1.05e-271;		
Matches	371;	Conservative	0;	Mismatches 1;
				Indels 0;
				Gaps 0

```
Db      22  ecfpkylhndeetshqllcdkcpptylkqhtactawktvcapcpdhyyrdswhsdecl 81
      |||
      22  ETFPRKYLHND EETSHQLLCDKCPPTYLKQHTACTAKKTVCACPDPHYRDSWHNSDECL 81
QY
```

Db	82	ycsprckalqyvkqecantthrrveeckegrylelelefcikhnsoprgfyvvaqgtprentv	141
Qy	82	YCSPRCKELQYVKQECNTHRRVEECKEGRYLELEFCLKHSOCPGFGVVAQGPENTV	141
Db	142	ckrcpddgffnsetsskacbrhtncsvfqliltqkgnathniasgnsestqcgaidvtl	201
Qy	142	CKRCPDGGFFNSETSSKACBRKHTNCSVFGLILTQKNATHDNIGSSESTQCGIDVTL	201
Db	202	ceaeffirfavbtkfthpna1svldnlpjtkynaesverikrqhsagqtfql1klwkhq	261
Qy	202	CEAEFFIRFAVBTKFTHPNA1SVLDNLPJTKYNAESVERIKRQHSAGQTFLQLKWKHQN	261
Db	262	kdgqdv1k1iqdidi1censvgrh1ghani1feg1r1simes1pgkkyvgaediekt1kacp	321
Qy	262	KDQDQDV1K1IQDIDI1CENSVGRH1GHAN1FEG1R1S1MES1PGKKYVGAEDIEKT1KACP	321
Db	322	sdq1k1k1s1wr1kngddt1kgl1ma1khs1kth1fk1vtq1s1kk1ir1f1ns1f1m1k1y	381
Qy	322	SDQ1K1K1S1WR1KNGDDT1KGL1MA1KHS1KTH1FK1VTVQ1S1KK1IR1F1NS1F1M1K1Y	381
Db	382	qk1flem1gn1v	393
Qy	382	QK1FLEM1GN0V	393

ID	R99936	standard; Protein; 360 AA.
DT	23-APR-1997	(first entry)
DE	Mutated OCIF, OCIF-DCR1.	
KW	Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;	
OS	Synthetic.	
FH	Key	Location/Qualifiers
FT	Peptide	1..21
FT	/note= "Signal peptide"	
FT	Protein	22..360
FT	/note= "Mature OCIF-DCR1"	
FT	Misc-difference	22..23
FT	/note= "Position of deletion, delta 2-42"	
PN	WO9626217-AI.	
PD	29-AUG-1996.	
PE	20-FEB-1996; J00374.	
PR	20-FEB-1995; JP-054877.	
PR	21-JUL-1995; JP-207508.	
PA	(SNOW) SNOW BRAND MILK PROD CO LTD.	
P1	Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;	
P2	Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;	
P3	WIPI; 96-402320/40.	
P4	N-PDSB; T3166.	
PT	DNA encoding osteoclastogenesis inhibitory factor protein - useful	
PT	for bone resorption control, esp. treatment of osteoporosis	
PS	Claim 44; Page 105-107; 18pp; Japanese.	
CC	This sequence represents a mutated version of the full length	
CC	osteoclastogenesis inhibitory factor (OCIF) of the invention. This	
CC	sequence represents OCIF-DCR1 in which amino acids 2-42 of the	
CC	mature OCIF protein are deleted. The OCIF of the invention	
CC	has a molecular weight by SDS-PAGE of 60 kD under reducing conditions	
CC	and 120 kD under non-reducing conditions. The protein is adsorbed onto	
CC	calcium-exchangers or heparin and its activity is lowered after 10 mins	
CC	at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90	
CC	deg.C. OCIF is useful in the control of bone resorption and therefore	
CC	in the treatment and prevention of disorders of bone resorption, e.g.	
CC	osteoporosis.	
SC	Sequence	360 AA;
Bd	Query Match	88.7%; Score 2539; DB 20; Length 360;
Bd	Best Local Similarity	98.3%; Pred. No. 2,64e-245;
Bd	Matches 341; Conservative	1; Mismatches 4; Indels 1; Gaps 1
Bd	15 siktvtg-eepcdhyttswhstdeclcysspyckelgygvkdecnrthrvreckegyle 73	
Bd	55 TAKMTVACPDPDHYYTWSHTSECLICSVCKELQYVKOECNRTHRVCKEKGYLE 114	

Db	74	ierclkhscppgfvvwaqgtrpentrvcikrcgdfifsnescskaprcrkhnccsvfgllt	133
QY	115	ieefclkhscppgfvvwaqgtrpentrvcikrcgdfifsnescskaprcrkhnccsvfgllt	174
Db	134	qknaethnicsgnaestlqcgldvtlceeeafirfawptkfupawlsavlvdnlpjgcvkna	193
QY	175	QKGNATHDNICSGNSESQKCGIDVTLCCEAFRFAVPTKTRPWLSEVLVDNLPGTRVNA	234
Db	194	esverikrcqhsqgctflllkxkhnqkdgdvkkllqgdldlccnsqgrthghahtlfeg	255
QY	235	BSVERIKRQHSSQDETFLLKXKHNQKNDQDVIKKIIDDLCNSVQRHGHANLFFEQ	294
Db	254	lrslneslpjgkkyvgaediektlckackpsdqllklsjwrlknqgdtklgjmalhskt	313
QY	295	LRSLMESLPGRKVGAEDEIKTRKACRPDQILKULSLMRKNGDPTLKGJMALHRSKT	354
Db	314	yhfprtvrgslkktlrflhstfmtyklygkllcmahngvgavkscl	360
QY	355	YHFPTVTRGSLKKTIRFLHSTFMTKLYOKFLNEMGNQVGSVKSCL	401

ID	Result	11	Standard	Protein	351 AA
AC	R99943				
DT	23-APR-1997				
DE	Mutated OCIF, OCIF-CC.				
KM	Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;				
OS	Synthetic.				
Key	Location/Qualifiers				
FT	Peptide	1..21			
FT	/note="Signal peptide"				
FT	Protein	22..351			
FT	/note="Mature OCIF-CC"				
PN	MO9626217-A1.				
PD	29-AUG-1996.				
PF	20-FEB-1996; J00374.				
PR	20-FEB-1995; JP-054977.				
PR	21-JUL-1995; JP-207508.				
PA	(SNOM) SNOW BRAND MILK PROD CO LTD.				
P1	Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;				
P1	Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;				
DR	WP1: 96-402320/40.				
DR	N-PSDB: t33173.				
PT	DNA encoding osteoclastogenesis inhibitory factor protein - useful				
PT	for bone resorption control, esp. treatment of osteoporosis				
CS	Claim 65; Page 119-121; 183pp; Japanese.				
CC	This sequence represents a mutated version of the full length				
CC	osteoclastogenesis inhibitory factor (OCIF) of the invention. This				
CC	sequence represents OCIF-CC in which amino acids 331-380 of the				
CC	mature OCIF protein are deleted. The OCIF of the invention				
CC	has a molecular weight by SDS-PAGE of 60 kD under reducing conditions				
CC	and 120 kD under non-reducing conditions. The protein is adsorbed onto				
CC	cation-exchangers or heparin and its activity is lowered after 10 mins				
CC	at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90				
CC	deg.C. OCIF is useful in the control of bone resorption and therefore				
CC	in the treatment and prevention of disorders of bone resorption, e.g.				
CC	osteoporosis.				
Sequence	351 AA:				
Query Match	86.7%; Score 2481; DB 20; Length 351;				
Best Local Similarity	100.0%; Pred. No. 2,64e-239;				
Matches	330; Conservative 0; Mismatches 0; Indels 0; Gaps 0;				
Db	22 etfppkylhydeetsqglldckepptgylxhntakxkvtcaccpdytdswhtsdecl 81				
Qy	22 ETFPPKYLHYDEETSQGLLDCKCPGTYLKHCHTAKKTKVCAPCPDHYTDSWHTSDECL 81				
Db	82 ycsppckelqvkgecnthrvceekegrylelefcldhncspcpgfygvgagpenty 141				
Qy	82 YCSPPCKELQVKGECNTHRVCEEKGRYLELEFCFLDKHNSCPGFGVVGAGTPENTV 141				

Db 311 ktyfpkvtvsglkktrflhsfcmkyhklflemingvsgvskl 359
 |||||||
 QY 353 KTYHFPKTVTOSLKKTRFLHSFTMKLYKLFLEMIGNOVOSKISCL 401

RESULT 14

ID R99938 standard: Protein; 360 AA.

AC R99938;

DT 23-APR-1997 (first entry)

DE Mutated OCIF, OCIF-DCR3.

KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;

OS Osteoporosis.

OS Synthetic.

FT Key

FT Peptide

FT /note="Signal peptide"

FT Protein

FT /note="Mature OCIF-DCR3"

FT Misc.difference 105..106

FT /note="Position of deletion, delta 85-122"

PN W09626217-A1.

PD 28-AUG-1996.

PE 20-FEB-1996; J00374.

PR 20-FEB-1995; JP-054977.

PR 21-JUL-1995; JP-207508.

PA (SNOW) SNOW BRAND MILK PROD CO LTD.

PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;

PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;

DR WPI; 96-402320/40.

DR N-P-SDB: T33168.

PT DNA encoding osteoclastogenesis inhibitory factor protein - useful

PT for bone resorption control, esp. treatment of osteoporosis

PS Claim 50, Page 109-111; 183pp; Japanese.

CC This sequence represents a mutated version of the full length

CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This

CC sequence represents OCIF-DCR3 in which amino acids 85-122 of the

CC mature OCIF protein are deleted. The OCIF of the invention

CC has a molecular weight by SDS-PAGE of 60 kD under reducing conditions

CC and 120 kD under non-reducing conditions. The protein is adsorbed onto

CC cation-exchangers or heparin and its activity is lowered after 10 mins

CC at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90

CC deg.C. OCIF is useful in the control of bone resorption and therefore

CC in the treatment and prevention of disorders of bone resorption, e.g.

CC osteoporosis.

CC Sequence 360 AA:

Query Match 74.1%; Score 2119; DB 20; Length 360;

Best Local Similarity 89.9%; Pred. No. 6.78e-202;

Matches 339; Conservative 0; Mismatches 0; Indels 38; Gaps 1;

Db 22 etfipkylhnydeetsngllcdkcpptgylkqhtctakwktvcapcpdhyttsvhtsdecl 81
 |||||||
 QY 22 ETEFPKYLHNYDEETSHOLLCDKCPPTGYLKQHTCTAKWKTVCAPCPDHYTTSVHTSDECL 81
 |||||||
 Db 82 ycsvpcckelgyvkqecnrthrvce----- 105
 |||||||
 QY 82 YCSVPCKELQYVKQECNRTHRVCECKEGRYLEIFCLKHSRCPGPGGVVAGTTPERNV 141
 |||||||
 Db 106 --rtpdggffsnetsskpcrzhnncsvfgllltqkgnathnicsgnsestqkcgldvtl 163
 |||||||
 QY 142 CKRCPDGFNSNETSSKAPCRKHTNCSVFGLLLTQKGNATHNICSGNSESTQKCGIDVT 201
 |||||||
 Db 164 ceaaftfaypckftfpnwslvlnjgpkvnaesverikrghssqgqftqllkylwkhqn 223
 |||||||
 QY 202 CEEAFRRFAVPTKFTFPMWLSVLVDNLPGTKVNAESVERIKRSHSSOEOTFQLKLMKHON 261
 |||||||
 Db 224 kdgdlvkkllqgdldlcnsvgrthghnltfegrlsimesjgpkkvaadtektikackp 283
 |||||||
 QY 262 KDQDIYVKRIIIDDLCNSVQRHIGHANLTFEQLRSIMESLPGRKVGAEDEKTIKACKP 321
 |||||||
 Db 284 sddgllkllslwrlnkgdgtlkglmhalkhsktyhfpkvtvsglkktrflhsftmykly 343
 |||||||

QY 322 SDQILKLLSLMRKNGDQDILKGLMHALKHKSHTYHFPKVTQSLKTRFLHSFTWKLY 381
 |||||||
 Db 344 GKLFLEMINGVSGVK 360
 |||||||
 QY 382 QKLFLEMIGNOVOSVKI 398

RESULT 15

ID R99939 standard: Protein; 359 AA.

AC R99939;

DT 23-APR-1997 (first entry)

DE Mutated OCIF, OCIF-DCR4.

KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;

OS Osteoporosis.

OS Synthetic.

FT Key

FT Peptide

FT /note="Signal peptide"

FT Protein

FT /note="Mature OCIF-DCR4"

FT Misc.difference 143..144

FT /note="Position of deletion, delta 123-164"

PN W09626217-A1.

PD 28-AUG-1996.

PE 20-FEB-1996; J00374.

PR 20-FEB-1995; JP-054977.

PR 21-JUL-1995; JP-207508.

PA (SNOW) SNOW BRAND MILK PROD CO LTD.

PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;

PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;

DR WPI; 96-402320/40.

DR N-P-SDB: T33169.

PT DNA encoding osteoclastogenesis inhibitory factor protein - useful

PT for bone resorption control, esp. treatment of osteoporosis

PS Claim 53, Page 111-113; 183pp; Japanese.

CC This sequence represents a mutated version of the full length

CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This

CC sequence represents OCIF-DCR4 in which amino acids 123-164 of the

CC mature OCIF protein are deleted. The OCIF of the invention

CC has a molecular weight by SDS-PAGE of 60 kD under reducing conditions

CC and 120 kD under non-reducing conditions. The protein is adsorbed onto

CC cation-exchangers or heparin and its activity is lowered after 10 mins

CC at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90

CC deg.C. OCIF is useful in the control of bone resorption and therefore

CC in the treatment and prevention of disorders of bone resorption, e.g.

CC osteoporosis.

CC Sequence 359 AA:

Query Match 72.7%; Score 2079; DB 20; Length 359;

Best Local Similarity 88.7%; Pred. No. 9.12e-198;

Matches 337; Conservative 0; Mismatches 1; Indels 42; Gaps 1;

Db 22 etfipkylhnydeetsngllcdkcpptgylkqhtctakwktvcapcpdhyttsvhtsdecl 81
 |||||||
 QY 22 ETEFPKYLHNYDEETSHOLLCDKCPPTGYLKQHTCTAKWKTVCAPCPDHYTTSVHTSDECL 81
 |||||||
 Db 82 ycsvpcckelgyvkqecnrthrvceckegryleifclkhrrscppgpggvvagtperntv 141
 |||||||
 QY 82 YCSVPCKELQYVKQECNRTHRVCECKEGRYLEIFCLKHSRCPGPGGVVAGTTPERNV 141
 |||||||
 Db 142 ck-----sgnsestqkcgldvtl 159
 |||||||
 QY 142 CKRCPDGFNSNETSSKAPCRKHTNCSVFGLLLTQKGNATHNICSGNSESTQKCGIDVT 201
 |||||||
 Db 160 ceaaftfaypckftfpnwslvlnjgpkvnaesverikrghssqgqftqllkylwkhqn 219
 |||||||
 QY 202 CEEAFRRFAVPTKFTFPMWLSVLVDNLPGTKVNAESVERIKRSHSSOEOTFQLKLMKHON 261
 |||||||
 Db 220 kdgdlvkkllqgdldlcnsvgrthghnltfegrlsimesjgpkkvaadtektikackp 279
 |||||||
 QY 262 KDQDIYVKRIIIDDLCNSVQRHIGHANLTFEQLRSIMESLPGRKVGAEDEKTIKACKP 321
 |||||||
 Db 280 sddgllkllslwrlnkgdgtlkglmhalkhsktyhfpkvtvsglkktrflhsftmykly 339
 |||||||

QY 322 SDQILKLLSLMRKNGDPTLKGIMHAKHSHKTYHFPKVTQSLKKTIRFLHSFTWKLY 381
Db 340 qkIflemignqvsxkiscI 359
QY 382 QKLFLEMIGNQVSXKISCL 401

Search completed: Wed Aug 20 09:52:27 1997
Job time : 64 secs.

THIS PAGE BLANK (USPTO)